

CLAIMS:

1. A contour filter for providing contour information from an array of pixel values representing an image, said array comprises a first and a second group of pixels, the first group of pixels representing part(s) of the image optically filtered with a filter having a first color (G), and the second group of pixels representing part(s) of the image optically filtered with one or more filters having one or more second colors (R, B), each pixel in the first group having a vertical and a horizontal neighboring pixel of the second group, said filter comprising:

means (ZSB) for converting said array of pixel values to a zero switched array, where the pixel values of the pixels in the second group are replaced by zero,

means (7) for contour filtering said zero switched array and outputting said contour information, the filtering means comprising:

- means for calculating, for each pixel in the zero switched array, a filtered pixel value, said calculation being performed by using an array of filter coefficients having mutual ratios being substantially defined by :

$$\begin{array}{ccccc} -0 \pm A & -1x \pm B & -2x \pm C & -1x \pm D & -0 \pm E \\ -1x \pm F & -0 \pm G & +2x \pm H & -0 \pm I & -1x \pm J \\ -2x \pm K & +2x \pm L & +8x \pm M & +2x \pm N & -2x \pm O \\ -1x \pm P & -0 \pm Q & +2x \pm R & -0 \pm S & -1x \pm T \\ -0 \pm U & -1x \pm V & -2x \pm X & -1x \pm Y & -0 \pm Z \end{array}$$

where x is a real number and the value of each of A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, X, Y, Z is between 0 and $0.25x$, and

means for multiplying the pixel value of the actual pixel with the $8x \pm M$ coefficient and the remaining filtering coefficients with correspondingly positioned pixel values in the zero switched array and finally summing the resulting values.

2. A contour filter according to claim 1, where the value of each of A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, X, Y, Z is between 0 and 0.1x, such as between 0 and 0.05x, such as between 0 and 0.01x, preferably at least substantially 0.

3. A method of providing contour information from an array of pixel values representing an image, said array comprises a first and a second group of pixels, the first group of pixels representing part(s) of the image optically filtered with a filter having a first color, and the second group of pixels representing part(s) of the image optically filtered with one or more filters having one or more second colors, each pixel in the first group having a vertical and a horizontal neighboring pixel of the second group, said filter comprises,

converting said array of pixel values to a zero switched array, where the pixel values of the pixels in the second group are replaced by zero,

contour filtering said zero switched array and outputting said contour

information, the filtering comprising:

calculating, for each pixel in the zero switched array, a filtered pixel value, said calculation being performed by using an array of filter coefficients having mutual ratios being substantially defined by :

$$\begin{array}{ccccc}
 -0 \pm A & -1x \pm B & -2x \pm C & -1x \pm D & -0 \pm E \\
 -1x \pm F & -0 \pm G & +2x \pm H & -0 \pm I & -1x \pm J \\
 -2x \pm K & +2x \pm L & +8x \pm M & +2x \pm N & -2x \pm O \\
 -1x \pm P & -0 \pm Q & +2x \pm R & -0 \pm S & -1x \pm T \\
 -0 \pm U & -1x \pm V & -2x \pm X & -1x \pm Y & -0 \pm Z
 \end{array}$$

where x is a real number and the value of each of A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, X, Y, Z is between 0 and 0.25x, and

multiplying the pixel value of the actual pixel with the $8x \pm M$ coefficient and the remaining filtering coefficients with correspondingly positioned pixel values in the zero switched array and finally summing the resulting values.

4. A method according to claim 3, where the value of each of A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, X, Y, Z is between 0 and 0.1x, such as between 0 and 0.05x, such as between 0 and 0.01x, preferably at least substantially 0.

5. A method according to claim 3, where said filtering is performed in parallel with a interpolation process, said interpolating process being a process where either pixels corresponding to pixels from said first group of pixels are interpolated in positions of said array only being represented by a pixel from said second group of pixels or pixels corresponding to pixels from said second group of pixels are interpolated in positions of said array only being represented by a pixel from said first group of pixels.

6. A computer program comprising computer program code means implementing the method of claim 3 when said program is run on a computer.

5 7. A computer readable medium comprising a computer program as claimed in claim 6.

8. A color camera, comprising:
a sensor (S) having a color filter array; and
10 a contour filter (7) as claimed in claim 1.